

Solid State Devices, Inc.

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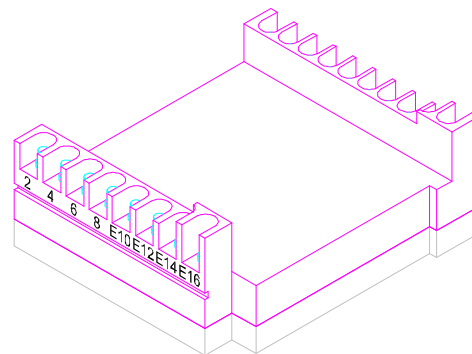
Designer's Data Sheet

FEATURES:

- 100kHz Operation
- Airborne Application up to 50,000 ft
- High Efficiency
- Low EMI / Corona Discharge
- Thermally Conductive Aluminum Base Plate
- Helicoil Mounting Inserts
- ESS Screening Available. Consult Factory.
- Exterior Surfaces Sandblasted to Promote Adhesion of Encapsulation in Subsequent Assembly

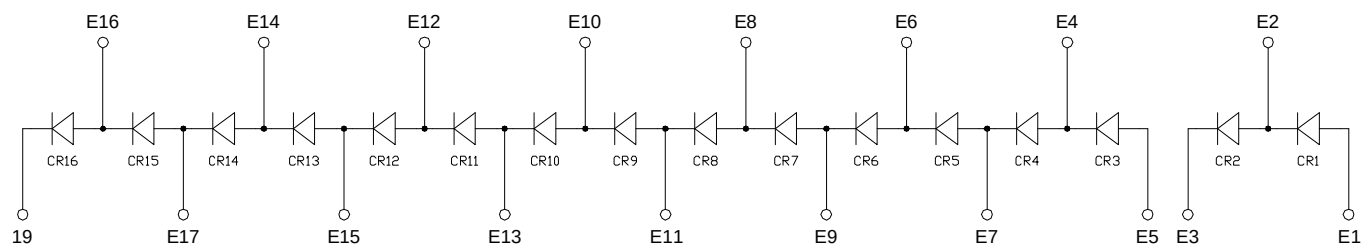
SPA547-01

HYPERFAST HIGH VOLTAGE DIODE BRIDGE ASSEMBLY 10.5 kV / 1.5A



MAXIMUM RATINGS (Per Leg, Unless Otherwise Specified)	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	V_{RRM} V_R	3,000	Volts
Half Wave Rectified Forward Current Averaged Over Fully Cycle (Resistive Load, 60 Hz, Sine Wave, $T_C = 100^\circ\text{C}$)	I_O	0.8	Amps
Peak Surge Current ($T_C = 55^\circ\text{C}$, 8.3 ms Pulse, Superimposed on Rated Current at Rated Voltage)	I_{FSM}	40	Amps
Maximum Individual Partial Discharge ($V = 15\text{kV}$, $t = 1\text{min}$, All Terminals in Common to Base)		10	pC
Maximum Dielectric Voltage	V_{DIEL}	15,000	Volts
Operating Temperature Range (Base plate)	$T_{OP\ BASE}$	-45 to +100	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance (Per Diode) Junction to Case	R_{qJC}	15	$^\circ\text{C/W}$

Electrical Schematic



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: PM0021D

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ELECTRICAL CHARACTERISTICS (Per Leg)	Symbol	Max	Unit
Max Instantaneous Forward Voltage Drop ($I_F = 1.0 \text{ A}$, $T_C = 25^\circ\text{C}$, 300 μs Pulse)	V_F	8.2	V
Max Reverse Leakage Current ($V_R = 3\text{kV}$, $T_C = 25^\circ\text{C}$)	I_{R1}	1	μA
Max Reverse Leakage Current ($V_R = 3\text{kV}$, $T_C = 100^\circ\text{C}$)	I_{R2}	50	μA
Maximum Junction Capacitance ($f = 1 \text{ MHz}$, $V_R = 100 \text{ V}$, $T_C = 25^\circ\text{C}$)	C_J	12	pF
Maximum Pin to Ground Capacitance ($f = 1 \text{ MHz}$, $V_R = 100 \text{ V}$, $T_C = 25^\circ\text{C}$)	C_B	30	pF
Maximum Reverse Recovery Time ($I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$, $T_C = 25^\circ\text{C}$)	t_{RR}	40	nsec

NOTES:

- Maximum forward voltage measured with instantaneous forward pulse of 300 μsec minimum.
- For information on curves, contact the Factory Representative for Engineering Assistance

